



YAMAHA

FM Sound Synthesizer Unit

SFG-01 FMサウンドシンセサイザーユニット 取扱説明書

NIPPON GAKKI CO., LTD.

FM SOUND SYNTHESIZER UNIT

INTRODUCTION

Features of FM sound synthesizer unit SFG-01

- (1) FM sound generator is used to obtain a professional quality musical sound which is equivalent to YAMAHA DX series FM digital synthesizer.
- (2) It is a 8 note polyphonic synthesizer and is capable of playing 8 different sounds simultaneously.
- (3) Various subroutines are installed to easily operate FM sound generator.
- (4) 48 preset sound data (two of which are assigned for voice synthesis.)
- (5) MIDI is equipped so communication with a ~~M~~MIDI standard musical instruments is possible.
- (6) Enjoy the following functions by using an optional music keyboard YK-01.
 - Keyboard split function is possible at any arbitrary note and play the music keyboard as two different keyboards.
 - Rhythm and auto-bass- chord are built in for easy play.
 - Record/playback function to record and reproduce your own performance using RAM area.
 - * quality
 - LFO, portamento, sustain, etc. are provided for professional/digital music synthesizer.
- (7) Voice synthesis at BASIC level is possible by using optional "MFM music macro" program.
- (8) Following application software are available from your MSX dealer;
 - YAMAHA FM MUSIC MACRO YRM-011 is an extended BASIC to utilize FM sound synthesizer unit at BASIC ~~level~~ level. Voice synthesis data is also included.
 - YAMAHA FM VOICING PROGRAM YRM-12 is used to obtain a wide variety of sound synthesis with your FM sound synthesizer in order to convert MSX into the ~~digital~~ digital music instrument.
 - YAMAHA FM MUSIC COMPOSER YRM-15 is a music editing program to fill in your music on your CRT screen and auto play the music without playing keyboard.

BEFORE USING.....

Before using your FM SOUND SYNTHESIZER please be careful about the following.

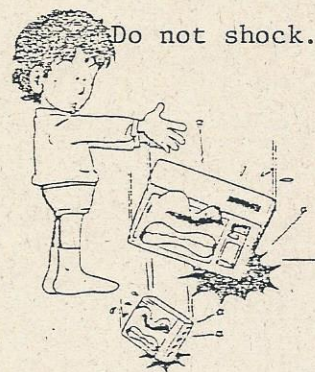
In case of malfunction please unplug AC consent.



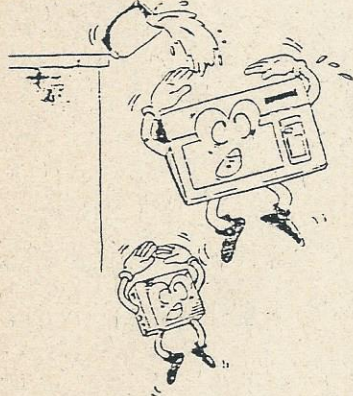
Do not disassemble.



Do not shock.



Do not water.



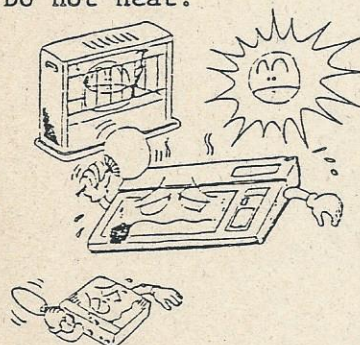
Do not touch or soil exposed connectors.



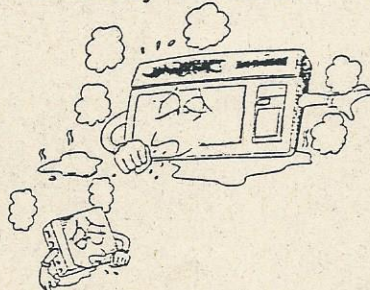
Please unplug AC consent when under severe thunderstorm.



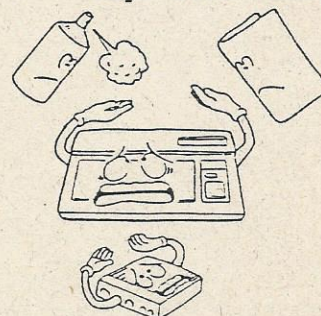
Do not heat.



Do not expose to an excessive humidity or dust.

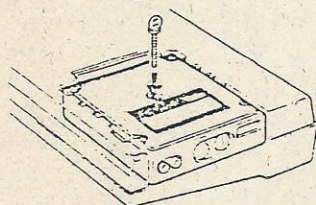
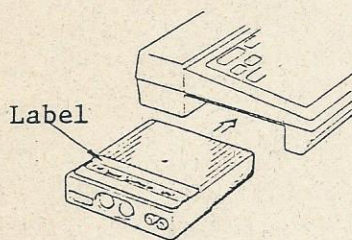
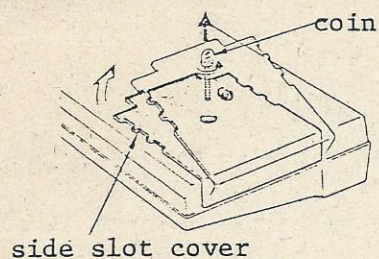


Do not spray or wipe with chemicals.



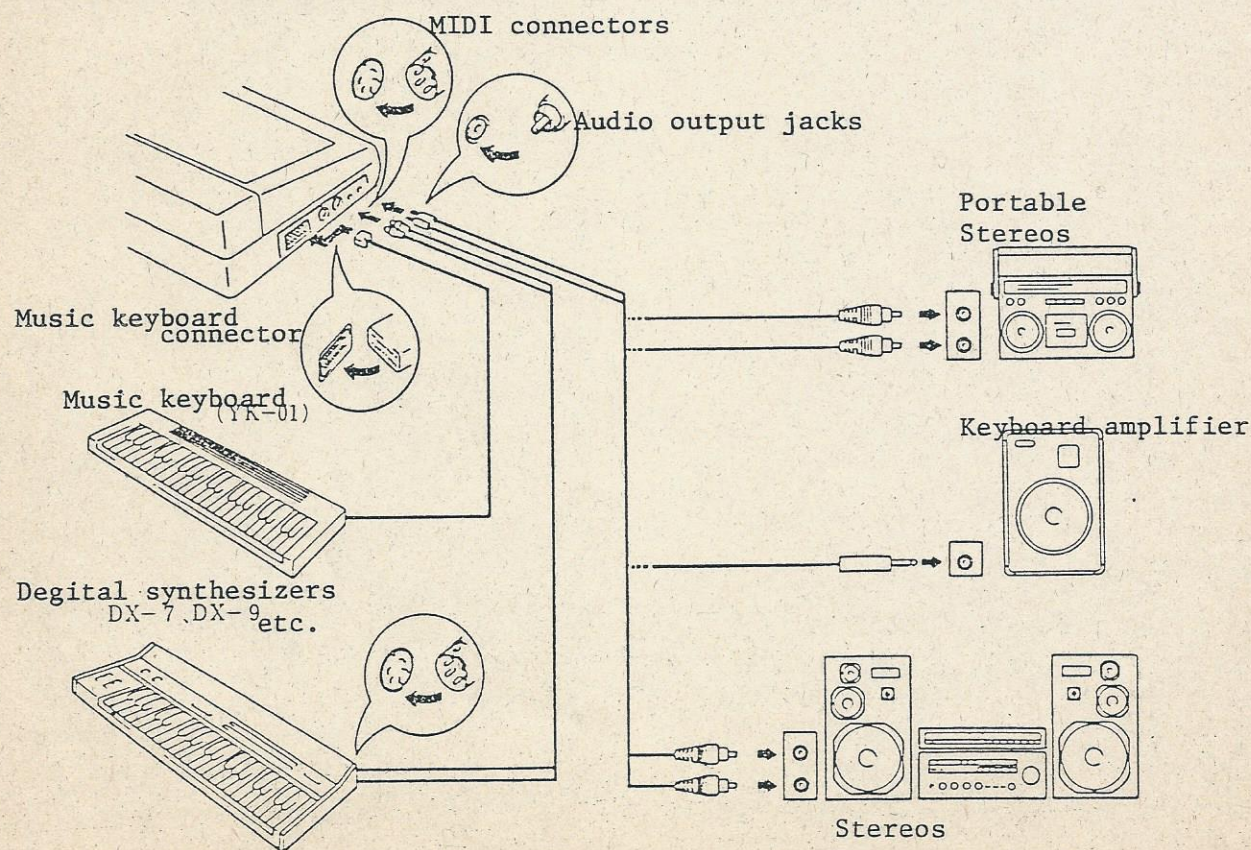
HOW TO MOUNT TO YAMAHA MSX

(WARNING) WHEN MOUNTING OR DISMOUNTING FROM MSX PLEASE TURN THE POWER OFF TO THE MSX. DO NOT TOUCH THE EXPOSED INTERNAL PARTS BY HANDS.



- (1) Remove the screw fixing the side slot cover.
- (2) Remove the side slot cover.
- (3) Insert the FM SOUND SYNTHESIZER UNIT to the side slot.
(NOTE) HOLD SO THE LABEL COMES TO TOP AND INSERT FIRMLY.
- (4) Tighten the side slot cover screw again.
(NOTE) IT IS IMPORTANT TO TIGHTEN THIS SCREW IN ORDER TO AVOID TROUBLES.

CONNECTION OF FM SOUND SYNTHESIZER



MUSIC KEYBOARD FUNCTION

The FM SOUND SYNTHESIZER UNIT includes a music keyboard function that, with a simply connecting an optional music keyboard YK-01, it can play as a digital music synthesizer.

- (1) Keyboard split function to separate a keyboard at an arbitrary point and two different sound can play simultaneously. One sound is monophonic and the other is polyphonic.
 - Each sound can be assigned to either higher or lower portion of music keyboard.
 - Either portion can be played as either monophonic or polyphonic.
 - All keyboard can be played as either monophonic or polyphonic.
 - You can add a portament and/or trigger function to monophonic sound.
 - The maximum of 7 notes can be played with polyphonic mode if both rhythm and auto-bass-chord are not used. Sustain function is available to polyphonic sound.
 - LFO functions on both polyphonic and monophonic sound to obtain vibrato or tremolo effect.
- (2) Rhythm and auto-bass-chord function is built in for easy operation. Each rhythm, bass and chord section is independently switched on and off.
- (3) Your own performance can be recorded and reproduced from MSX memory. It also can be saved to the cassette data recorder.
- (4) Using YAMAHA FM VOICING PROGRAM any arbitrary sound synthesis is possible for your custom design sound.
- (5) Using MIDI you can play along with DX-7 or DX-9 FM digital synthesizer.

Note;

There are two method to play with your FM sound synthesizer unit.

- (1) Using TV monitor built-in speaker.....

FM and MSX sounds are mixed together internally and can be played through the TV speaker. You can only connect the video and audio output cable to your monitor TV.

In case the home TV is used via RF modulator, just connect the audio and video cables to RF modulator and connect RF output cable to your TV antenna input terminal.

- (2) Using ~~HiFi~~ HiFi stereo amplifier and speaker.....

external

You will obtain real professional quality sound by using/power amplifier and ~~XXXXXX~~ speaker. Please connect the stereo power amplifier to R/L output connector on your FM sound synthesizer unit.

Each sound can be located either to the right or to the left or centered by using "FM voicing program" software. All preset tones are centered, in a meantime.

(WARNING)

Due to wide dynamic ~~x~~ range of FM SOUND SYNTHESIZER~~UNIT~~ UNIT, when TV monitor speaker is used for audio out, the tone may reach the saturation point. Should it be the case please decrease the output level of in the FM sound synthesizer unit.

It is advisorble to use stereo amplifier and speakers or xkeyboard speakers for a better listning tonal quality.

MUSIC KEYBOARD FUNCTION

How to operate the music keyboard function

1. Turn the MSX power on.
2. MSX will show now that it is in BASIC mode.
3. Type in CALL MUSIC then return.
4. Now MSX is in FM music synthesizer mode.

```
MSX BASIC version 1.0
Copyright 1983 by Microsoft
12345 bytes free
Ok
call music RET
```

Selection of sound, rhythm, etc. will be done on MSX keyboard. If you desire to select sound or rhythm cursor() has to be moved the appropriate portion on the screen. When power to the MSX initially is turned on, cursor indicates top left portion (POLY) and stays at VOIC(E) selection.

Cursor can be moved back and forth with return or BS key.

RET key to move cursor to the next selection on the screen.

BS key to move cursor back to the preceding selection.

Screen is divided into 5 blocks. Function key will move cursor to ~~xxx~~ first selection of each block.

```
F1  POLY
F2  RHYTHM
F3  LFO
F4  MONO
F5  BALANCE
```

If the cursor has moved to one block another press of the function key (same as originally pressed to move the cursor in to the block) will move the cursor within the block. For example, if cursor is on TEMPO in the RHYTHM block and F2 key is pressed for the second time then cursor moves to CHOR RM. BASS and then to BASS R1. BASS then goes back to NAME (16 BEAT) and so forth.

Cursor movement key is used to change the argument of each selection.

→ Fine adjustment(+)

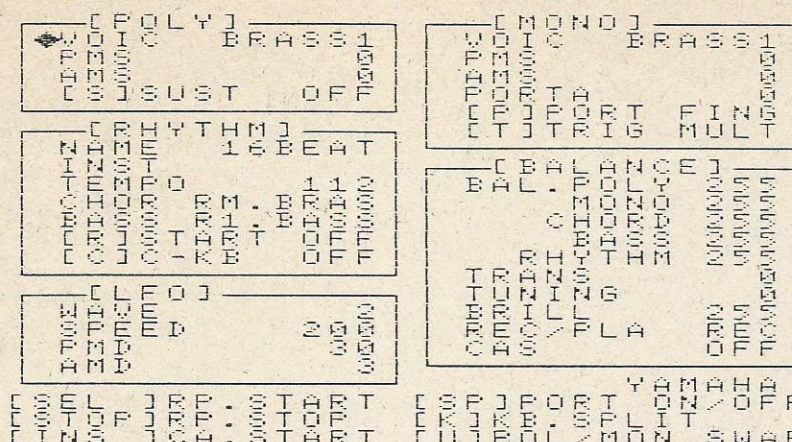
← Fine adjustment(-)

↑ Coarse ~~s~~adjustment(+)

↓ Coarse adjustment(-)

HOME key is used to change any argument the cursor is indicating to its default value or function.

Sustain or Portament mode will be changed by simply pressing certain key. For example S is pressed to obtain or eliminate a sustain effect.



SCREEN DESCRIPTION

() shows its default value

SECTION1

POLY : Polyphonic section

VOIC :Voice selection (BRASS 1)
PMS :Pitch modulation sensitivity (0)
AMS :Amplitude modulation sensitivity (0)
(S)SUST :Sustain on/off switch (off)

SECTION2

RHYTHM : Rhythm and auto-bass-chord selection

NAME :Rhythm pattern selection (16 BEATS)
INST :Instruments selection
(rhythm, bass and chord)
TEMPO :Rhythm tempo control (128)
CHORD :Chord sound selection (RM.BRASS)
BASS :BASS sound selection (RL.BASS)
(R)START :Rhythm start/stop
(C)C-KB :Auto bass chord mode

SECTION3

LFO : Low frequency oscillator section

WAVE :LFO wavefor selection (0)
SPEED :LFO frequency adjustment (0)
PMD :Pitch modulation depth (0)
AMD :amplitude modulation depth (0)

SECTION4

MONO :Monophonic section

VOIC :Voice selection (BRASS 1)
 PMS :Pitch modulation sensitivity (0)
 AMS :Amplitude modulation sensitivity (0)
 (P)PORTA :PORTAMENTO mode select (FING)
 (t)TRIG :TRIGGER mode select (MULT)

SECTION5

BALANCE :Volume balance, etc.

BAL. POLY : Polyphonic part volume control (255)
 MONO : Monophonic part volume control (255)
 CHORD: Chord part volume control (255)
 BASS : Bass part volume control (255)
 RHYTHM:Rhythm part volume control (255)
 TRANS :Key transpose (0)
 Tuning :Fine tuning (0)
 Brill :Brilliance control (255)
 REC/PLA :Recording and playback selection (REC)
 CAS :Saving to cassett data recorder (off)

(SEL)RP.START : Recording/playback start button
 (STOP)RP.STOP : Recording/playback stop button
 (INS)CA.START : Cassett data recorder start button
 (SP)PORT ON/OFF : Portament on/off
 (K)KB.SPLIT : Keyboard split initialize
 (U)POL/MONO SWAP: Swap poli and mono part of keyboard